Storm Water Management Plan
For Priority Projects
(Major SWMP)

The Major Stormwater Management Plan (Major SWMP) must be completed in its entirety and accompany applications to the County for a permit or approval associated with certain types of development projects. To determine whether your project is required to submit a Major or Minor SWMP, please reference the County's Stormwater Intake Form for Development Projects.

Project Name:	FALLBROOK OAKS
Permit Number (Land Development Projects):	TM 5449
Work Authorization Number (**CIP only**):	
Applicant:	CABRILLO MEDICAL LLC
Applicant's Address:	3721 VALLEY CENTRE DR, SD 92130
Plan Prepare By (*Leave blank if same as applicant*):	WINTON ENGINEERING, INC. SAN DIEGO, CA
Date:	OCT. 10, 2008
Revision Date (If applicable):	

The County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) (Ordinance No. 9424) requires all applications for a permit or approval associated with a Land Disturbance Activity to be accompanied by a Storm Water Management Plan (SWMP) (section 67.806.b). The purpose of the SWMP is to describe how the project will minimize the short and long-term impacts on receiving water quality. Projects that meet the criteria for a priority development project are required to prepare a Major SWMP.

Since the SWMP is a living document, revisions may be necessary during various stages of approval by the County. Please provide the approval information requested below.

Project Stages	Does the SWMP need revisions?		If YES, Provide Revision Date
	YES	NO	

Instructions for a Major SWMP can be downloaded at
http://www.sdcounty.ca.gov/dpw/watersheds/susmp/susmp.html

Completion of the following checklists and attachments will fulfill the requirements of a Major SWMP for the project listed above.

PROJECT DESCRIPTION

Please provide a brief description of the project in the following box. Please include:

- Project Location
- Project Description
- Physical Features (Topography)
- Surrounding Land Use
- Proposed Project Land Use
- Location of dry weather flows (year-round flows in streams, or creeks) within project limits, if applicable.

The Fallbrook Oaks project is within the unincorporated community of Fallbrook, about 6 miles northwest of the Interstate 15 and Highway 76 intersection. It is north of Reche Road and west of Ranger Road.

The project is a rural residential estate subdivision of 19 lots, 1-acre minimum area, within the 27-acre site. It has previously had a restaurant in an old house (which burned in Rice fire), and orchards.

The topography slopes to the weste, east, and south, and has 2 natural drainage courses in the easterly portion, which run toward the south.

Land uses to the north and east are small orchards and single family dwellings. To the west are naturally vegetated areas and single family dwellings on large parcels. To the south is the Valley Oaks Mobilehome Park.

The project is a proposed as a rural residential estate subdivision.

No dry weather flows have been observed within the ephemeral streams / natural drainage courses onsite.

PRIORITY DEVELOPMENT PROJECT DETERMINATION

Please check the box that best describes the project. Does the project meet one of the following criteria?

Table 1

PRIORITY DEVELOPMENT PROJECT	YES	NO
Redevelopment that creates or adds at least 5,000 net square feet of additional impervious surface area	X	
Residential development of more than 10 units	X	
Commercial developments with a land area for development of greater than 1 acre		X
Heavy industrial development with a land area for development of greater than 1 acre		X
Automotive repair shop(s)		X
Restaurants, where the land area for development is greater than 5,000 square feet		X
Hillside development, in an area with known erosive soil conditions, where there will be grading on any natural slope that is twenty-five percent or greater, if the development creates 5,000 square feet or more of impervious surface		X
Environmentally Sensitive Areas (ESA): All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.		X
Parking Lots 5,000 square feet or more or with 15 parking spaces or more and potentially exposed to urban runoff		X
Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater	X	
Retail Gasoline Outlets (RGO) that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.		X

Limited Exclusion: Trenching and resurfacing work associated with utility projects are not considered Priority Development Projects. Parking lots, buildings and other structures associated with utility projects are subject to the WPO requirements if one or more of the criteria above are met.

If you answered **NO** to all the questions, then **STOP**. Please complete a Minor SWMP for your project.
If you answered **YES** to any of the questions, please continue.

HYDROMODIFICATION DETERMINATION

The following questions provide a guide to collecting information relevant to hydromodification management issues.

Table 2

	QUESTIONS	YES	NO	Information
1.	Will the proposed project disturb 50 or more acres of land? (Including all phases of development)		X	If YES, continue to 2. If NO, go to 6.
2.	Would the project site discharge directly into channels that are concrete-lined or significantly hardened such as with rip-rap, sackcrete, etc, downstream to their outfall into bays or the ocean?			If NO, continue to 3. If YES, go to 6.
3.	Would the project site discharge directly into underground storm drains discharging directly to bays or the ocean?			If NO, continue to 4. If YES, go to 6.
4.	Would the project site discharge directly to a channel (lined or un-lined) and the combined impervious surfaces downstream from the project site to discharge at the ocean or bay are 70% or greater?			If NO, continue to 5. If YES, go to 6.
5.	Project is required to manage hydromodification impacts.			Hydromodification Management Required as described in Section 67.812 b(4) of the WPO.
6.	Project is not required to manage hydromodification impacts.	X		Hydromodification Exempt. Keep on file.

An exemption is potentially available for projects that are required (No. 5. in Table 2 above) to manage hydromodification impacts: The project proponent may conduct an independent geomorphic study to determine the project's full hydromodification impact. The study must incorporate sediment transport modeling across the range of geomorphically-significant flows and demonstrate to the County's satisfaction that the project flows and sediment reductions will not detrimentally affect the receiving water to qualify for the exemption.

STORMWATER QUALITY DETERMINATION

The following questions provide a guide to collecting information relevant to project stormwater quality issues. Please provide the following information in a printed report accompanying this form.

Table 3

	QUESTIONS	COMPLETED	NA
1.	Describe the topography of the project area.	✓	
2.	Describe the local land use within the project area and adjacent areas.	✓	
3.	Evaluate the presence of dry weather flow.	✓	
4.	Determine the receiving waters that may be affected by the project throughout all phases of development through completion (i.e., construction, long-term maintenance and operation).	✓	
5.	For the project limits, list the 303(d) impaired receiving water bodies and their constituents of concern.	✓	
6.	Determine if there are any High Risk Areas (which is defined by the presence of municipal or domestic water supply reservoirs or groundwater percolation facilities) within the project limits.		✓
7.	Determine the Regional Board special requirements, including TMDLs, effluent limits, etc.		✓
8.	Determine the general climate of the project area. Identify annual rainfall and rainfall intensity curves.	✓	
9.	Determine the soil classification, permeability, erodibility, and depth to groundwater for Treatment BMP consideration.	✓	
10.	Determine contaminated or hazardous soils within the project area.		✓
11.	Determine if this project is within the environmentally sensitive areas as defined on the maps in Appendix A of the *County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects.*		✓
12.	Determine if this is an emergency project.		✓

1. Describe topography of the project area.

The existing site topography is gently rolling slopes in westerly, easterly, and southerly directions, and the natural site runoff discharges into and through three (3) natural drainage courses which run toward the south of the proposed project site.

The upstream tributary areas, north and southwest of the project site and are gently-to-steeply sloped, and include paved roads and dirt roads.

2. Describe local land use within area and adjacent areas.

(Note: This Fallbrook Oaks site was burned by the October 2007 Rice Canyon Fire, and these descriptions of "existing conditions" herein are for the pre-fire vegetation conditions.)

The existing site has abandoned orchard areas vegetated with annual grasses, ribbons of oak trees along two (2) drainage courses, and contains an old, unoccupied residence (which will be removed).

To the north, west, southwest, and east of the project site are naturally vegetated land, several small orchards, and single family dwellings on large lots, as well as paved roads and dirt roads. To the south is the Valley Oaks Mobilehome Park.

3. Evaluate the presence of dry weather flows.

Dry weather flows have not been observed. With the onset of water rationing to the groves and residences in Fallbrook, no dry weather flows are expected in the future.

4. Determine the receiving waters that may be affected by the project throughout all phases of development through completion (i.e., construction, long-term maintenance and operation).

The project drains to the Bonsall HAS Hydrologic Subarea (basin number 903.12), the Lower San Luis Hydrologic Area (903.10), and the Pacific Ocean Coastline at Carlsbad as part of the San Luis Rey Hydrologic Unit (903.00)

8. Determine the general climate of the project area. Identify annual rainfall and rainfall intensity curves.

The Fallbrook climate tends to be 75-85 degrees in the summer and in the 40-60 degrees in winter. The warmest month of the year is August with an average maximum temperature of 82.40 degrees Fahrenheit, while the coldest month of the year is December with an average minimum temperature of 40.00 degrees Fahrenheit. Daily temperature variations average 21 degrees Fahrenheit during summer and 26 degrees Fahrenheit during winter.

The annual average precipitation at Fallbrook is 13.21 inches. Rainfall in is fairly evenly distributed throughout the year. The wettest month of the year is January with an average rainfall of 3.00 inches.

Statistically, the 24 hour 85th % rainfall depth is 0.85 inches.
The 6-hour 2-year rainfall depth is 1.6 inches, the 24-hour 2-year rainfall depth is 3.0 inches.

The 6-hour 100-year rainfall depth is 3.25 inches; the 24-hour 100-year rainfall depth is 5.5 inches.

9. Determine the soil classification, permeability, erodability, and depth to groundwater for Treatment BMP consideration

Soils information from the USDA Soil Survey, San Diego Area, CA, Sheet No. 12 (Bonsall Quadrangle):

Soil	Symbol	Type	permeability	erodability	Depth to H20
Fallbrook sandy loam	FaD2	C	< 0.63"/hr	Severe	10 ft +
Placentia sandy loam	PeC2	D	< 0.63"/hr	Severe	10 ft +
Steep gullied land	stG	D	< 0.63"/hr	Severe	10 ft +
Vista course sandy loam	VsE	B	< 0.63"/hr	slight	10 ft +
Ramona andy loam	RaC	C	< 0.63"/hr	Severe	10 ft +
Visalia sandy loam	VaC	B	1" - .63"/hr	Severe	10 ft +

WATERSHED

Please check the watershed(s) for the project.

☐ San Juan 901	☐ Santa Margarita 902	☒ San Luis Rey 903	☐ Carlsbad 904
☐ San Dieguito 905	☐ Penasquitos 906	☐ San Diego 907	☐ Sweetwater 909
☐ Otay 910	☐ Tijuana 911	☐ Whitewater 719	☐ Clark 720
☐ West Salton 721	☐ Anza Borrego 722	☐ Imperial 723	

Please provide the hydrologic sub-area and number(s)

Number	Name
903.12	BONSALL HAS

Please provide the beneficial uses for Inland Surface Waters and Ground Waters. Beneficial Uses can be obtained from the Water Quality Control Plan for the San Diego Basin, which is available at the Regional Board office or at http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

SURFACE WATERS	Hydrologic Unit Basin Number	MUN	AGR	IND	PROC	GWR	FRESH	POW	REC1	REC2	BIOL	WARM	COLD	WILD	RARE	SPWN
Inland Surface Waters	903.12		X	X					X	X	X	X		X	X	
Ground Waters	903.10	X	X	X												

*** Excepted from Municipal**

X Existing Beneficial Use
0 Potential Beneficial Use

POLLUTANTS OF CONCERN

Using Table 4, identify pollutants that are anticipated to be generated from the proposed priority project categories. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern.

Table 4. Anticipated and Potential Pollutants Generated by Land Use Type

	General Pollutant Categories								
PDP Categories	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P(1)	P(2)	P	X
Commercial Development 1 acre or greater	P(1)	P(1)		P(2)	X	P(5)	X	P(3)	P(5)
Heavy industry /industrial development	X		X	X	X	X	X		
Automotive Repair Shops			X	X(4)(5)	X		X		
Restaurants					X	X	X	X	
Hillside Development >5,000 ft^2	X	X			X	X	X		X
Parking Lots	P(1)	P(1)	X		X	P(1)	X		P(1)
Retail Gasoline Outlets			X	X	X	X	X		
Streets, Highways & Freeways	X	P(1)	X	X(4)	X	P(5)	X		

X = anticipated
P = potential
(1) A potential pollutant if landscaping exists on-site.
(2) A potential pollutant if the project includes uncovered parking areas.
(3) A potential pollutant if land use involves food or animal waste products.
(4) Including petroleum hydrocarbons.
(5) Including solvents.

Note: If other monitoring data that is relevant to the project is available. Please include as Attachment C.

CONSTRUCTION BMPs

Please check the construction BMPs that may be implemented during construction of the project. The applicant will be responsible for the placement and maintenance of the BMPs incorporated into the final project design.

- [x] Silt Fence
- [x] Fiber Rolls
- [x] Street Sweeping and Vacuuming
- [x] Storm Drain Inlet Protection
- [x] Stockpile Management
- [x] Solid Waste Management
- [x] Stabilized Construction Entrance/Exit
- [ ] Dewatering Operations
- [x] Vehicle and Equipment Maintenance
- [x] Desilting Basin
- [x] Gravel Bag Berm
- [x] Sandbag Barrier
- [x] Material Delivery and Storage
- [x] Spill Prevention and Control
- [x] Concrete Waste Management
- [x] Water Conservation Practices
- [x] Paving and Grinding Operations
- [x] Any minor slopes created incidental to construction and not subject to a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days of completion of the slope and prior to final building approval.

EXCEPTIONAL THREAT TO WATER QUALITY DETERMINATION

Complete the checklist below to determine if a proposed project will pose an "exceptional threat to water quality," and therefore require Advanced Treatment Best Management Practices.

Table 5

No.	CRITERIA	YES	NO	INFORMATION
1.	Is all or part of the proposed project site within 200 feet of waters named on the Clean Water Act (CWA) Section 303(d) list of Water Quality Limited Segments as impaired for sedimentation and/or turbidity? Current 303d list may be obtained from the following site: http://www.swrcb.ca.gov/tmdl/docs/303dlists2006/approved/r9_06_303d_reqtmdls.pdf		X	If YES, continue to 2. If NO, go to 5.
2.	Will the project disturb more than 5 acres, including all phases of the development?			If YES, continue to 3. If NO, go to 5.
3.	Will the project disturb slopes that are steeper than 4:1 (horizontal: vertical) with at least 10 feet of relief, and that drain toward the 303(d) listed receiving water for sedimentation and/or turbidity?			If YES, continue to 4. If NO, go to 5.
4.	Will the project disturb soils with a predominance of USDA-NRCS Erosion factors k_f greater than or equal to 0.4?			If YES, continue to 6. If NO, go to 5.
5.	Project is not required to use Advanced Treatment BMPs.	X		Document for Project Files by referencing this checklist.
6.	Project poses an "exceptional threat to water quality" and is required to use Advanced Treatment BMPs.		X	Advanced Treatment BMPs must be consistent with WPO section 67.811(b)(20)(D) performance criteria

Exemption potentially available for projects that require advanced treatment:
Project proponent may perform a Revised Universal Soil Loss Equation, Version 2 (RUSLE 2), Modified Universal Soil Loss Equation (MUSLE), or similar analysis that shows to the County official's satisfaction that advanced treatment is not required

Now that the need for treatment BMPs has been determined, other information is needed to complete the SWMP.

SITE DESIGN

To minimize stormwater impacts, site design measures must be addressed. The following checklist provides options for avoiding or reducing potential impacts during project planning. If YES is checked, it is assumed that the measure was used for this project.

Table 6

	OPTIONS		YES	NO	N/A
1.	Has the project been located and road improvements aligned to avoid or minimize impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions?		X		
2.	Is the project designed to minimize impervious footprint?		X		
3.	Is the project conserving natural areas where feasible?		X		
4.	Where landscape is proposed, are rooftops, impervious sidewalks, walkways, trails and patios be drained into adjacent landscaping?		X		
5.	For roadway projects, are structures and bridges be designed or located to reduce work in live streams and minimize construction impacts?				X
6.	Can any of the following methods be utilized to minimize erosion from slopes:		X		
	6.a.	Disturbing existing slopes only when necessary?	X		
	6.b.	Minimize cut and fill areas to reduce slope lengths?	X		
	6.c.	Incorporating retaining walls to reduce steepness of slopes or to shorten slopes?		X	
	6.d.	Providing benches or terraces on high cut and fill slopes to reduce concentration of flows?			X
	6.e.	Rounding and shaping slopes to reduce concentrated flow?	X		
	6.f.	Collecting concentrated flows in stabilized drains and channels?	X		

LOW IMPACT DEVELOPMENT (LID)

Each numbered item below is a LID requirement of the WPO. Please check the box(s) under each number that best describes the Low Impact Development BMP(s) selected for this project.

Table 7

1. Conserve natural Areas, Soils, and Vegetation-County LID Handbook 2.2.1
☐ Preserve well draining soils (Type A or B)
☒ Preserve Significant Trees
☒ Other. Description: PRESERVE NATURAL DRAINAGE COURSES AND OAK WOODLAND, RIPARIAN AREAS
☐ 1. Not feasible. State Reason:
2. Minimize Disturbance to Natural Drainages-County LID Handbook 2.2.2
☒ Set-back development envelope from drainages
X Restrict heavy construction equipment access to planned green/open space areas
☒ Other. Description: NO WORK IN OPEN SPACE AREAS AND NATURAL WATER COURSES
☐ 2. Not feasible. State Reason:
3. Minimize and Disconnect Impervious Surfaces (see 5) -County LID Handbook 2.2.3
☒ Clustered Lot Design LOTS KEPT OUT OF SENSITIVE AREAS
☐ Items checked in 5?
☒ Other. Description: ALL PAVED SURFACES DISCHARGE TO GRASS OR ROCK-LINED EARTH SWALES
☐ 3. Not feasible. State Reason:
4. Minimize Soil Compaction-County LID Handbook 2.2.4
X Restrict heavy construction equipment access to planned green/open space areas
☐ Re-till soils compacted by construction vehicles/equipment
X Collect & re-use upper soil layers of development site containing organic materials
☐ Other. Description:
4. Not feasible. State Reason:
5. Drain Runoff from Impervious Surfaces to Pervious Areas-County LID Handbook 2.2.5 X

	LID Street & Road Design
☐	Curb-cuts to landscaping
☒	Rural Swales GRASS
☐	Concave Median
☐	Cul-de-sac Landscaping Design
☐	Other. Description:
	LID Parking Lot Design N/A
☐	Permeable Pavements
☐	Curb-cuts to landscaping
☐	Other. Description:
	LID Driveway, Sidewalk, Bike-path Design
☒	Permeable Pavements
☐	Pitch pavements toward landscaping
☒	Other. Description: PAVEMENT DRAINS TO GRASS AND ROCK-LINED EARTH SWALES
	LID Building Design
☐	Cisterns & Rain Barrels
☒	Downspout to swale
☐	Vegetated Roofs
☐	Other. Description:
	LID Landscaping Design
☒	Soil Amendments
☒	Reuse of Native Soils
☐	Smart Irrigation Systems
☐	Street Trees
☒	Other. Description: ON-LOT GRASS SWALES
☐ 5. Not feasible. State Reason:	

CHANNELS & DRAINAGES

Complete the following checklist to determine if the project includes work in channels.

Table 8

No.	CRITERIA	YES	NO	N/A	COMMENTS
1.	Will the project include work in channels?		X		If YES go to 2 If NO go to 13.
2.	Will the project increase velocity or volume of downstream flow?				If YES go to 6.
3.	Will the project discharge to unlined channels?				If YES go to. 6.
4.	Will the project increase potential sediment load of downstream flow?				If YES go to 6.
5.	Will the project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability?				If YES go to 8.
6.	Review channel lining materials and design for stream bank erosion.				Continue to 7.
7.	Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity.				Continue to 8.
8.	Include, where appropriate, energy dissipation devices at culverts.				Continue to 9.
9.	Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour.				Continue to 10.
10.	Include, if appropriate, detention facilities to reduce peak discharges.				Continue to 11.
11.	"Hardening" natural downstream areas to prevent erosion is not an acceptable technique for protecting channel slopes, unless pre-development conditions are determined to be so erosive that hardening would be required even in the absence of the proposed development.				Continue to 12.
12.	Provide other design principles that are comparable and equally effective.				Continue to 13.
13.	End	X			

SOURCE CONTROL

Please complete the following checklist for Source Control BMPs. If the BMP is not applicable for this project, then check N/A only at the main category.

Table 9

	BMP		YES	NO	N/A
1.	**Provide Storm Drain System Stenciling and Signage**				
	1.a.	All storm drain inlets and catch basins within the project area shall have a stencil or tile placed with prohibitive language (such as: "NO DUMPING – DRAINS TO _____") and/or graphical icons to discourage illegal dumping.	X		
	1.b.	Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.	X		
2.	**Design Outdoors Material Storage Areas to Reduce Pollution Introduction**				
	2.a.	This is a detached single-family residential project. Therefore, personal storage areas are exempt from this requirement.	X		
	2.b.	Hazardous materials with the potential to contaminate urban runoff shall either be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.			X
	2.c.	The storage area shall be paved and sufficiently impervious to contain leaks and spills.			X
	2.d.	The storage area shall have a roof or awning to minimize direct precipitation within the secondary containment area.			X
3.	**Design Trash Storage Areas to Reduce Pollution Introduction**				
	3.a.	Paved with an impervious surface, designed not to allow run-on from adjoining areas, screened or walled to prevent off-site transport of trash; or,			X
	3.b.	Provide attached lids on all trash containers that exclude rain, or roof or awning to minimize direct precipitation.	X		
4.	**Use Efficient Irrigation Systems & Landscape Design**				
	The following methods to reduce excessive irrigation runoff shall be considered, and incorporated and implemented where determined applicable and feasible.				
	4.a.	Employing rain shutoff devices to prevent irrigation after precipitation.	X		
	4.b.	Designing irrigation systems to each landscape area's specific water requirements.	X		
	4.c.	Using flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.	X		
	4.d.	Employing other comparable, equally effective, methods to reduce irrigation water runoff.		X	
5.	**Private Roads**				

	BMP		YES	NO	N/A
	The design of private roadway drainage shall use at least one of the following				
	5.a.	Rural swale system: street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings.	X		
	5.b.	Urban curb/swale system: street slopes to curb, periodic swale inlets drain to vegetated swale/biofilter.			X
	5.c.	Dual drainage system: First flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder, high flows connect directly to storm water conveyance system.		X	
	5.d.	Other methods that are comparable and equally effective within the project.			
6.	**Residential Driveways & Guest Parking**				
	The design of driveways and private residential parking areas shall use one at least of the following features.				
	6.a.	Design driveways with shared access, flared (single lane at street) or wheelstrips (paving only under tires); or, drain into landscaping prior to discharging to the storm water conveyance system.	X		
	6.b.	Uncovered temporary or guest parking on private residential lots may be: paved with a permeable surface; or, designed to drain into landscaping prior to discharging to the storm water conveyance system.	X		
	6.c.	Other features which are comparable and equally effective.			
7.	**Dock Areas**				
	Loading/unloading dock areas shall include the following.				X
	7.a.	Cover loading dock areas, or design drainage to preclude urban run-on and runoff.			X
	7.b.	Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.			X
	7.c.	Other features which are comparable and equally effective.			X
8.	**Maintenance Bays**				
	Maintenance bays shall include the following.				X
	8.a.	Repair/maintenance bays shall be indoors; or, designed to preclude urban run-on and runoff.			X
	8.b.	Design a repair/maintenance bay drainage system to capture all wash water, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.			X
	8.c.	Other features which are comparable and equally effective.			X
9.	**Vehicle Wash Areas**				
	Priority projects that include areas for washing/steam cleaning of vehicles shall use the following.				X
	9.a.	Self-contained; or covered with a roof or overhang.			X
	9.b.	Equipped with a clarifier or other pretreatment facility.			X
	9.c.	Properly connected to a sanitary sewer.			X
	9.d.	Other features which are comparable and equally effective.			X

	BMP		YES	NO	N/A
10.	**Outdoor Processing Areas**				
	Outdoor process equipment operations, such as rock grinding or crushing, painting or coating, grinding or sanding, degreasing or parts cleaning, waste piles, and wastewater and solid waste treatment and disposal, and other operations determined to be a potential threat to water quality by the County shall adhere to the following requirements.				X
	10.a.	Cover or enclose areas that would be the most significant source of pollutants; or, slope the area toward a dead-end sump; or, discharge to the sanitary sewer system following appropriate treatment in accordance with conditions established by the applicable sewer agency.			X
	10.b.	Grade or berm area to prevent run-on from surrounding areas.			X
	10.c.	Installation of storm drains in areas of equipment repair is prohibited.			X
	10.d.	Other features which are comparable or equally effective.			
11.	**Equipment Wash Areas**				
	Outdoor equipment/accessory washing and steam cleaning activities shall be.				X
	11.a.	Be self-contained; or covered with a roof or overhang.			X
	11.b.	Be equipped with a clarifier, grease trap or other pretreatment facility, as appropriate			X
	11.c.	Be properly connected to a sanitary sewer.			X
	11.d.	Other features which are comparable or equally effective.			X
12.	**Parking Areas**				
	The following design concepts shall be considered, and incorporated and implemented where determined applicable and feasible by the County.				X
	12.a.	Where landscaping is proposed in parking areas, incorporate landscape areas into the drainage design.			X
	12.b.	Overflow parking (parking stalls provided in excess of the County's minimum parking requirements) may be constructed with permeable paving.			X
	12.c.	Other design concepts that are comparable and equally effective.			X
13.	**Fueling Area**				
	Non-retail fuel dispensing areas shall contain the following.				X
	13.a.	Overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area. The fueling area shall drain to the project's treatment control BMP(s) prior to discharging to the storm water conveyance system.			X
	13.b.	Paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete shall be prohibited.			X
	13.c.	Have an appropriate slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of urban runoff.			X

		BMP	YES	NO	N/A
	13.d.	At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.			X

Please list other project specific Source Control BMPs in the following box. Write **N/A** if there are none.

N/A

TREATMENT CONTROL

To select a structural treatment BMP using Treatment Control BMP Selection Matrix (Table 10), each priority project shall compare the list of pollutants for which the downstream receiving waters are impaired (if any), with the pollutants anticipated to be generated by the project (as identified in Table 4). Any pollutants identified by Table 4, which are also causing a Clean Water Act section 303(d) impairment of the receiving waters of the project, shall be considered primary pollutants of concern. Priority projects that are anticipated to generate a primary pollutant of concern shall select a single or combination of stormwater BMPs from Table 10, which **maximizes pollutant removal** for the particular primary pollutant(s) of concern.

Priority development projects that are **not** anticipated to generate a pollutant for which the receiving water is CWA 303(d) impaired shall select a single or combination of stormwater BMPs from Table 10, which are effective for pollutant removal of the identified secondary pollutants of concern, consistent with the "maximum extent practicable" standard.

Table 10. Treatment Control BMP Selection Matrix

Pollutants of Concern	Bioretention Facilities (LID)*	Settling Basins (Dry Ponds)	Wet Ponds and Wetlands	Infiltration Facilities or Practices (LID)*	Media Filters	High-rate biofilters	High-rate media filters	Trash Racks & Hydro -dynamic Devices
Coarse Sediment and Trash	High	High	High	High	High	High	High	High
Pollutants that tend to associate with fine particles during treatment	High	High	High	High	High	Medium	Medium	Low
Pollutants that tend to be dissolved following treatment	Medium	Low	Medium	High	Low	Low	Low	Low

*Additional information is available in the County of San Diego LID Handbook.

NOTES ON POLLUTANTS OF CONCERN:
In Table 11, Pollutants of Concern are grouped as gross pollutants, pollutants that tend to associate with fine particles, and pollutants that remain dissolved.

Table 11

Pollutant	Coarse Sediment and Trash	Pollutants that tend to associate with fine particles during treatment	Pollutants that tend to be dissolved following treatment
Sediment	X	X	
Nutrients		X	X
Heavy Metals		X	
Organic Compounds		X	
Trash & Debris	X		
Oxygen Demanding		X	
Bacteria		X	
Oil & Grease		X	
Pesticides		X	

A Treatment BMP must address runoff from developed areas. Please provide the post-construction water quality treatment volume or flow values for the selected project Treatment BMP(s). Guidelines for design calculations are located in Chapter 5, Section 4.3, Principle 8 of the County SUSMP. Label outfalls on the BMP map. The Water Quality peak rate of discharge flow (Q_{WQ}) and the Water Quality storage volume (V_{WQ}) is dependent on the type of treatment BMP selected for the project.

Outfall	Tributary Area (acres)	Q_{WQ} (cfs)	V_{WQ} (ft^3)

PLEASE SEE ATTACHED TABLES

TREATMENT DATA FOR LOT BIOSWALES

Location	Area (acres)	Q (cfs)	Width = 0 V-ditch	Length (feet)	slope	n-value	Depth (feet)	Residence Time (minutes)
East Canyon								
Lot 17	0.62	0.05	V-ditch	530.0	0.005	0.25	0.33	71.3
Center Canyon								
Lot 9	0.32	0.03	V-ditch	380.0	0.005	0.25	0.25	61.5
Lot 8	0.35	0.03	V-ditch	430.0	0.005	0.25	0.25	69.6
Lot 7	0.41	0.03	V-ditch	440.0	0.005	0.25	0.25	71.2
Lot 6	0.42	0.04	V-ditch	400.0	0.005	0.25	0.29	58.6
Lot 5	0.37	0.03	V-ditch	430.0	0.005	0.25	0.25	69.6
West Canyon								
Lot 10	0.75	0.06	V-ditch	645.0	0.005	0.25	0.34	85.0
Lot 11	0.55	0.05	V-ditch	540.0	0.005	0.25	0.33	72.6
Lot 12	0.73	0.06	V-ditch	605.0	0.005	0.25	0.34	79.8
Lot 13	0.71	0.06	V-ditch	640.0	0.005	0.25	0.34	84.4
Lot 14	0.46	0.04	V-ditch	480.0	0.005	0.25	0.29	79.3
Lot 15	0.84	0.07	V-ditch	455.0	0.005	0.25	0.36	57.7
Lot 16	0.65	0.05	V-ditch	755.0	0.005	0.25	0.33	101.5
Lot 4	0.47	0.04	V-ditch	480.0	0.005	0.25	0.29	79.3
Lot 3	0.29	0.02	V-ditch	410.0	0.005	0.25	0.24	68.2
Lot 2	0.69	0.06	V-ditch	470.0	0.005	0.25	0.34	62.0
Lot 1	0.49	0.04	V-ditch	440.0	0.005	0.25	0.29	64.4
Lot 18	0.43	0.04	V-ditch	420.0	0.005	0.25	0.29	61.6

TREATMENT DATA FOR STREET CATCH BASIN FILTERS

Location	Area (acres)	Q (cfs)	Summation Q	Basins / Inlets
Ranger	0.30	0.05	-----	
Reche	0.70	0.11	0.16	Reche/VO
F Oaks Lots 5-9	0.28	0.05		Private Inlet FO
F Oaks Lots 1-4	0.25	0.05		Private Inlet FO
F Oaks L 10-14	0.45	0.08		Private Inlet FO
V Oaks L 15-16	0.59	0.11		2 Private Inlets VO
V Oaks Lot 1-18	0.32	0.06		Private Inlet VO

VO = Valley Oaks Blvd West
FO = Fallbrook Oaks

Please check the box(s) that best describes the Treatment BMP(s) selected for this project.

Biofilters
☒ Bioretention swale
☐ Vegetated filter strip
☐ Stormwater Planter Box (open-bottomed)
☐ Stormwater Flow-Through Planter (sealed bottom)
☐ Bioretention Area
☐ Vegetated Roofs/Modules/Walls
Detention Basins
☐ Extended/dry detention basin with grass/vegetated lining
☐ Extended/dry detention basin with impervious lining
Infiltration Basins
☐ Infiltration basin
☐ Infiltration trench
☐ Dry well
☐ Permeable Paving
☐ Gravel
☐ Permeable asphalt
☐ Pervious concrete
☐ Unit pavers, ungrouted, set on sand or gravel
☐ Subsurface reservoir bed
Wet Ponds or Wetlands
☐ Wet pond/basin (permanent pool)
☐ Constructed wetland
Filtration
☐ Media filtration
☐ Sand filtration
Hydrodynamic Separator Systems
☐ Swirl Concentrator
☐ Cyclone Separator
Trash Racks and Screens

Include Treatment Datasheet as Attachment E. The datasheet should include the following:	**COMPLETED** X	**NO**
1. Description of how treatment BMP was designed. Provide a description for each type of treatment BMP.	X	
2. Engineering calculations for the BMP(s)	X	

Please describe why the selected treatment BMP(s) was selected for this project. For projects utilizing a low performing BMP, please provide a detailed explanation.

Earth swales, rock-lined and grass, were selected because of effectiveness, cost-efficiency, simplicity, and ease of comprehension, monitoring, and maintenance by property owners. The swales are dispersed around the project, so that any short-term localized failure would have minimal detrimental effect upon water quality. Grass swales on the pads and in the streets, means that all of the runoff from the developed areas (except Reche Road) flow through a grass swale.

MAINTENANCE

Please check the box that best describes the maintenance mechanism(s) for this project. Guidelines for each category are located in Chapter 5, Section 5.2 of the County SUSMP.

CATEGORY	SELECTED	
	YES	NO
First	X	
Second[1]		X
Third[1]		X
Fourth		X

Note:

1. Projects in Category 2 or 3 may choose to establish or be included in a Stormwater Maintenance Assessment District for the long-term maintenance of treatment BMPs.

ATTACHMENTS

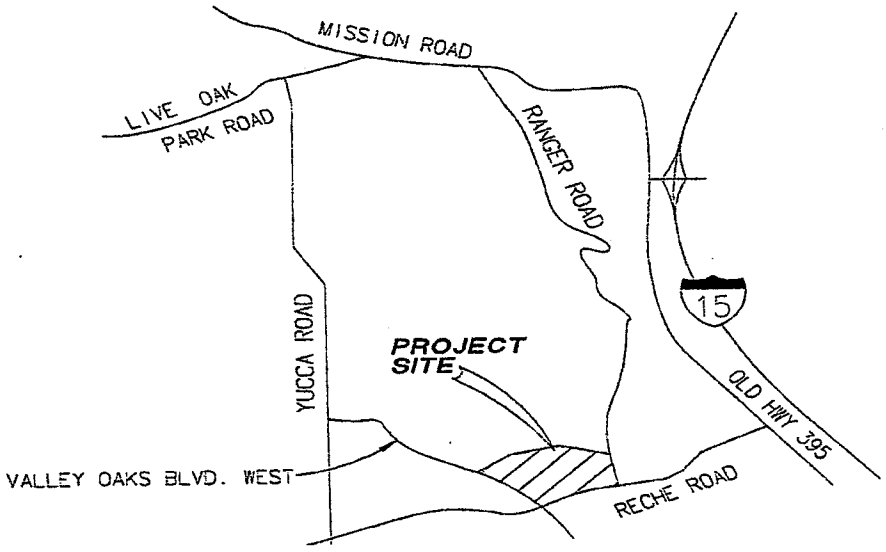
Please include the following attachments.

ATTACHMENT		COMPLETED	N/A
A	Project Location Map	X	
B	Site Map	X	
C	Relevant Monitoring Data		X
D	LID and Treatment BMP Location Map	X	
E	Treatment BMP Datasheets	X	
F	Operation and Maintenance Program for Treatment BMPs	X	
G	Fiscal Resources		X
H	Certification Sheet	X	
I	Addendum	X	

Note: Attachments A and B may be combined.

ATTACHMENT A

PROJECT LOCATION MAP



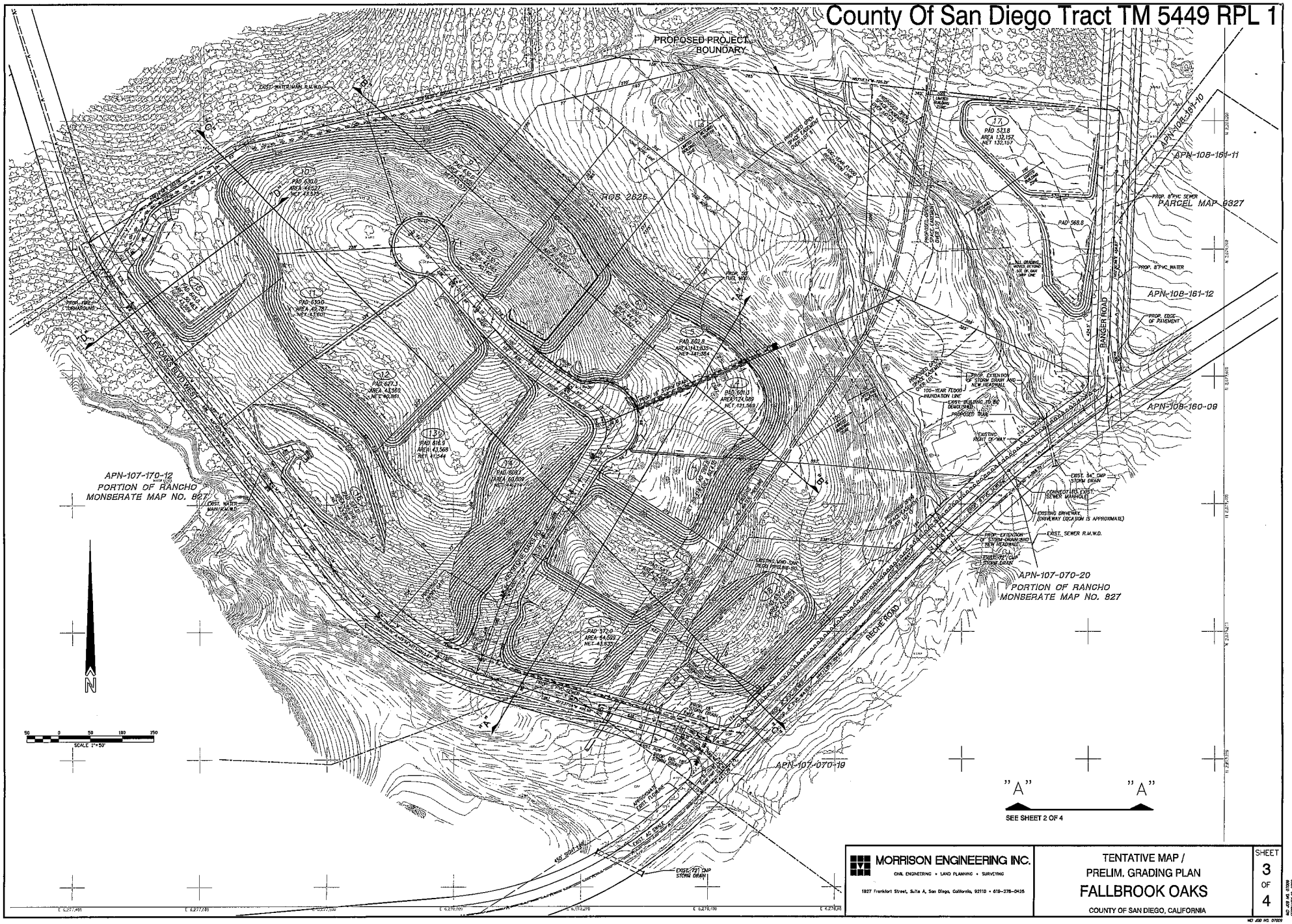
VICINITY MAP

NTS

ATTACHMENT B

SITE MAP

County Of San Diego Tract TM 5449 RPL 1



MORRISON ENGINEERING INC.
CIVIL ENGINEERING • LAND PLANNING • SURVEYING
1927 Frankfort Street, Suite A, San Diego, California, 92110 • 619-276-0425

TENTATIVE MAP / PRELIM. GRADING PLAN

FALLBROOK OAKS

COUNTY OF SAN DIEGO, CALIFORNIA

SHEET 3 OF 4

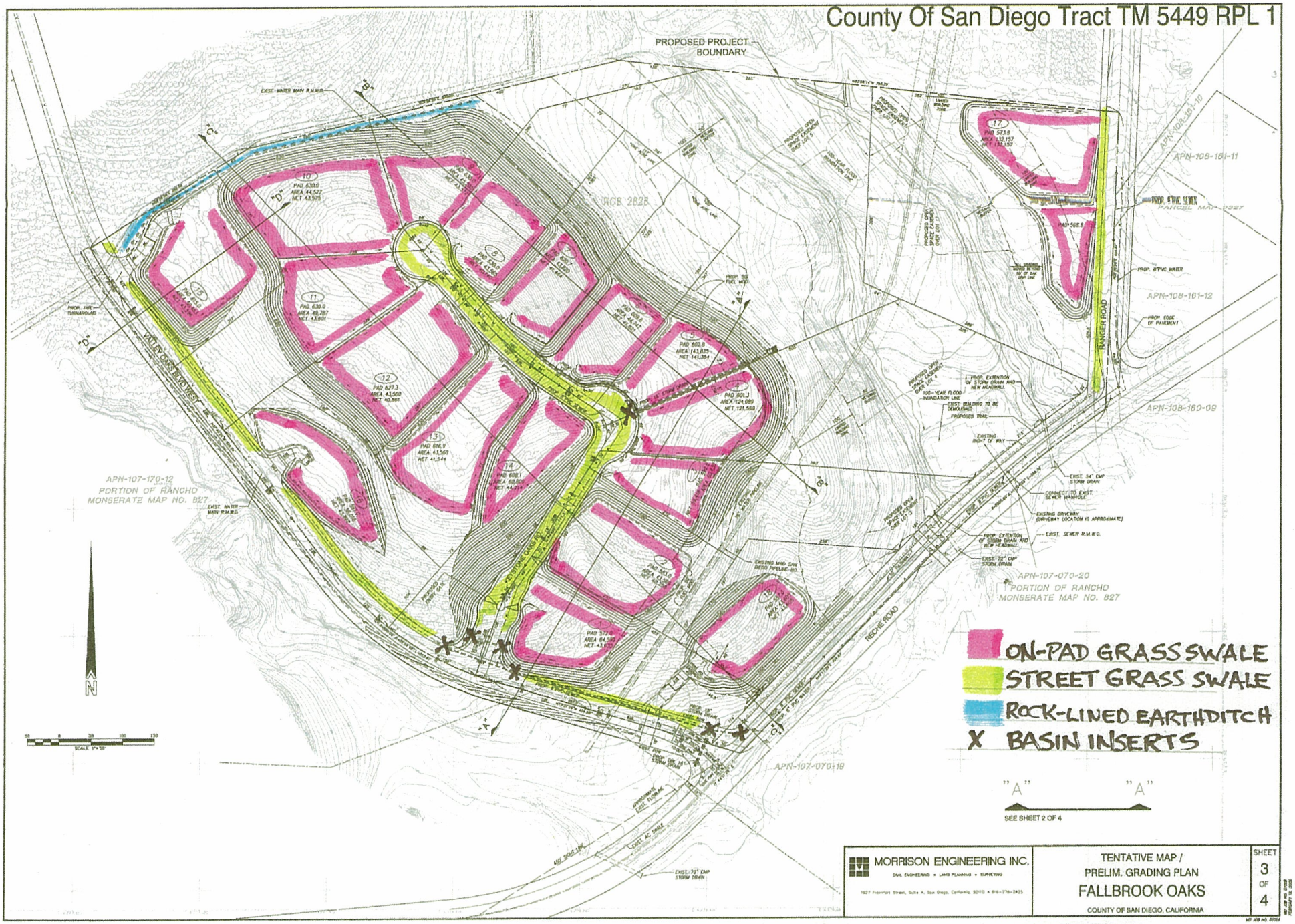
MD JOB NO. 07009

FEBRUARY 13, 2009

ATTACHMENT D

LID AND TREATMENT BMP LOCATION MAP

25A



25A. ATTACHMENT "D"

LID/BMP

ATTACHMENT E

TREATMENT BMP DATASHEET

*(**NOTE:** POSSIBLE SOURCE FOR DATASHEETS CAN BE FOUND AT WWW.CABMPHANDBOOKS.COM. INCLUDE ENGINEERING CALCULATIONS FOR SIZING THE TREATMENT BMP.)*

On-pad grass swales: "V" swale, 4 ft wide, 6 inches deep, slope = 0.5%. On-pad swales in this project are typically 400-600 ft long.

Hydrology:

Lots:
C= 0.42 for Lots (Low Density Residential (Urban - 2.0 DU / ac or less).
C soils per Section 2.3 of Drainage Study)
i_{85} = 0.2 iph

Streets: C = 0.90 (all other same as lots)

For calculated Qs, please see pages 19A and 19B

ATTACHMENT F

OPERATION AND MAINTENANCE PROGRAM FOR TREATMENT BMPS

BIOSWALE MAINTENANCE

- Swale maintenance includes mowing and removing clippings and litter. Vegetated swales may require additional maintenance of plants.
- Periodically remove sediment ccumulation at top of bank, in swale bed, or behind check dams.
- Monitor for erosion and reseed grass or replace plants, erosion control netting, and mulch as necessary. Fertilize and replace vegetation well in advance ofd rainy season to minimize water quality degradation.
- Regular inspections and maintenance is required during the establishment period.

Operation and maintenance of on-lot bioswales will be by individual lot owners, with oversight by all owners as authorized in CC&Rs

Operation and maintenance of bioswales in Fallbrook Oaks will be by the developer or HOA.

INLET / CATCH BASIN FILTER MAINTENANCE

Operation and maintenance of inlet filters within Fallbrook Oaks and Valley Oaks Blvd West will be by the developer or HOA.

Operation and maintenance of the inlet filters within Reche Road will be by the County of San Diego.

ATTACHMENT G

FISCAL RESOURCES

N/A

ATTACHMENT H

CERTIFICATION SHEET

This Stormwater Management Plan has been prepared under the direction of the following Registered Civil Engineer. The Registered Civil Engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

GUY WINTON III, PE

10/10/08
Date

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PROCESS

DANA NICHOLAS

~~5~~ 33.5642

1 888. 671. 8468

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DANA NICHOLAS ESQ.

PM 1866.470.1308

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